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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

IN RE: MELICK, Bruce D., et al.

SERIAL NO: 09/698,793

**FOR: METHOD OF TRANSMITTING
DATA INCLUDING A
STRUCTURED LINEAR
DATA BASE**

FILED: October 27, 2000

GROUP ART UNIT: 2172

ATTORNEY DOCKET NO. P04254US1

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APPEAL NO. _____

BRIEF ON APPEAL

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To the Commissioner of Patents and Trademarks
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Dear Sirs:

Please enter the following Brief on Appeal into the record.

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I hereby certify that this document and the documents referred to as enclosed therein are being deposited with the U. S. Postal Service in an envelope as "Express Mail Post Office to Addressee" addressed to:
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John D. Goodhue

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I. REAL PARTY OF INTEREST

According to MPEP § 1206, identification of the real party of interest will allow members of the board to comply with ethics regulations. This application has been assigned by the inventors to LDB of Iowa, Limited, an Iowa Corporation, and from LDB of Iowa, Limited to Lightwave Systems, Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-8, 11-47 are pending. Claims 21-34 have previously been withdrawn from consideration. Claims 1-8 and 11-20 are pending and appealed.

IV. STATUS OF AMENDMENTS

Applicant's Amendment After Final dated November 11, 2003 has **NOT** been entered, as stated in the Examiner's Advisory Action dated November 25, 2003 (Paper No. 10). That Amendment sought to cancel claims 21-34 that were previously withdrawn from consideration.

V. SUMMARY OF INVENTION

The present invention is directed towards a method of transmitting data using a structured linear database (Specification, p. 1). The structure of the linear database is such that data within the database can be accessed directly from a transmission (Specification, paragraph spanning p. 17-18). The structured linear database includes a linear file allocation which indicates where in the transmission different data fields are located, including start and end positions (p. 18, line 6 to p. 19, line 18). By directly accessing the pulse-based transmission, data can be accessed because the location of data within the transmission is known.

VI. ISSUES

- A. Are claims 6-8 and 11-16 allowable because Jungers does not disclose "writing a linear file allocation table giving the name of the field and location *within a transmission* at which the field contents start and stop."
- B. Is claim 7 allowable because Jungers does not disclose transmission via a "*time modulated ultra-wide band system*"?
- C. Are claims 1-5 over Chung in view of Zeytoonjian?
- D. Is claim 17 patentable over Chung?

VII. GROUPING OF THE CLAIMS

Claims 6-8 and 11-16 are grouped for purposes of addressing a common rejection which should be reversed. Claims 6, 8 and 11-16 would rise and fall together. Claim 7 is grouped separately because of an independent reason for patentability. Claims 1-5 are also grouped for purpose of addressing a common rejection that should be reversed, but will rise and fall together. Claims 17-20 include independent claim 17 and dependent claim 18-20. For purposes of simplification on appeal, it is submitted that claims 17-20 rise and fall together.

VIII. ARGUMENT

- A. **CLAIMS 6-8 AND 11-16 ARE NOT ANTICIPATED BY JUNGERS**

The primary reference relied upon by the Examiner is Jungers. Jungers is significantly different from the Applicant's claimed invention. Jungers is directed to a data structure for retrieving data from a segmented information stream (col. 2, lines 3-5). There is an initial directory payload portion followed by a payload portion containing one or more object tables (col. 2, lines 3-6). The directory includes table description records for each table in the payload portion (col. 2, lines 7-9). The directory information can include a table type and a number of data segments associated with the table. Jungers reduces the memory requirements of a receiving device by processing directory information in a particular manner (col. 4, lines 27-33). If a particular table type is not supported by a device then the data segments associated with a table of that particular table type are not acquired and stored in memory (col. 4, lines 27-33).

From the Examiner's remarks in the present case, it appears that the Examiner does not properly understand the claimed invention. For example, the Examiner explained in Paper 10, dated November 25, 2003, page 2 that:

"Examiner understands that the claimed linear database is used to interpret the ultrawide transport stream. Examiner holds the [sic] directory information stored in the data structure used by Jungers is also used to interpret a transport stream (col. 4, lines 24-30). Examiner does not see any patentable difference in the way the [sic] these streams are processed."

One of the flaws in the Examiner's reasoning is that the Examiner does not understand the relationship between the structure of the Applicant's database and the transport stream or misreads Jungers to the extent that the Examiner finds the same relationship there. The structured linear database of the present invention does not merely "interpret" a stream.

Rather, the structured linear database of the present invention provides for direct access to data within a pulse position encoded transmission. This is a significant difference. For example, in Jungers, data packets are received, processed, and not stored if they are not important (Col. 4, lines 21-33). See also Figure 4A, step 404, "EXAMINE RECEIVED SEGMENT IN BUFFER." Selectively storing a data packet based upon determining its identifier or a table associated with it and then determining whether data packets of that identifier or associated with that table are to be acquired is a fundamentally different process than acquiring only the data needed by accessing data based on its position within a pulse position encoded transmission. Jungers is directed to the former process and not the latter process.

At Col. 4, lines 24-30, Jungers merely discloses:

table type stored in the directory record of each table is used by the individual set top to determine which tables it will receive. When requesting a stream, the application for a given set top model indicates which table types it supports. When processing the directory message, the system compares the table type for each record against the supported table types. If a table is not supported, the bit array in its

Jungers does not tie the manner in which data is transmitted (which can generally—but not always—be considered to be the transport layer) to the underlying structure of the database. Jungers makes this clear because in Figure 2 of Jungers there is a transport demultiplexer 230. The operation of this demultiplexer 230 is described at col. 4, lines 50-54:

Transport stream demultiplexer 230, in response to a control signal TD produced by controller 270, demultiplexes (i.e., extracts) at least one of a compressed audio information stream AE, a compressed video information stream VE and a data stream DATA.

The operation of the demultiplexer 230 is further described at col. 5, lines 1-7:

further processing. It is important to note that, at least for the data stream DATA, transport stream demultiplexer 230 operates to discard those messages or segments that are found to contain errors (e.g., those messages or error that do not pass a CRC checksum test). Thus, the data stream DATA comprises only those messages or segments that were not discarded by the transport demultiplexer 230.

Therefore, whenever Jungers discusses a data stream, Jungers is dealing with data that has already been transported over a communications channel (or alternatively, data that has yet to be transported over a communications channel). Jungers is not concerned with and does not disclose any relationship between the data itself and the type of communications channel over which the data is transported.

Claims 6-8 and 11-16 require "writing a linear file allocation table giving the name of the field and location within a transmission at which the field contents start and stop." Contrary to the Examiner's assertions, this limitation is not disclosed in Jungers. The Examiner looks to Figure 1 and col. 3, lines 40-50 of Jungers (Office Action of August 11, 2003, Paper No. 8, page 7). Jungers does not disclose that the database includes within it a "location *within a transmission* at which the field contents start and stop." Jungers is simply not directed towards accessing or manipulating a field of a database based on the location of data within the transmission. Jungers access data after it has already been received in the form of a message or segment (i.e. a packet). Jungers may indicate a length of a data field or the location of a data field within a table of the database. This is not the same information as what is required by Applicant's claims 6-8 and 11-16 because this type of information does not relate to the transmission itself, it merely relates to how the data is divided up or packetized before the transmission and how it is put back together or depacketized after the

transmission. Therefore, Jungers is deficient, does not disclose each and every limitation of claims 6-8 or 11-16, and therefore the Examiner should be reversed.

B. CLAIM 7 IS NOT ANTICIPATED BY JUNGERS

Claim 7 is dependent upon claim 6 but also explicitly requires that "the transmission occurs using a time modulated ultra-wide band system." The Examiner cites to col. 4, lines 35-45 of Jungers for this proposition (Paper No. 8, page 7, last paragraph). The Examiner must be reversed because there is absolutely no such disclosure present at col. 4, lines 35-45 or elsewhere in Jungers.

C. CLAIMS 1-5 ARE PATENTABLE OVER U.S. PATENT NO. 4,357,634 TO CHUNG IN VIEW OF U.S. PATENT NO. 5,719,555 TO ZEYTOONJIAN

The Examiner has rejected claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,357,634 to Chung in view of U.S. Patent No. 5,719,555 to Zeytoonjian. Both references are very diverse fields of arts as evidenced by their respective classifications and fields of search.

Chung is directed towards an encoding/decoding methodology for recording digital information on a recording medium or in telecommunications applications (Abstract). Chung relies upon flux reversals to represent information. The flux reversals can be represented by pulses. The time interval between adjacent pairs of pulses can be used as a symbol (see e.g. Figure 1). Therefore, Chung discloses an example of pulse position type encoding. Chung further discloses that there can be a table that relates particular symbols with particular time intervals between pulses (col. 7, lines 4-40).

Zeytoonjian simply describes encoding information where the presence or absence of pulses at particular positions is used as control or data bits (see Figure 3C; col. 16, line 45 to col. 17, line 50). Zeytoonjian discloses that start and stop pulses can be used (col. 16, lines 39-43).

Claim 1 requires a relationship between data fields of a structured linear database and pulse position information that is not present in either reference alone or in combination with one another. This relationship between the pulse stream and the data is explicit in the language of the claims. Consider claim 1. Claim 1 requires "providing a linear file allocation table including a field name for one or more subdivisions of data and pulse start and end position information for each of the field names", "providing a data portion which includes the data corresponding to each field in a predetermined position corresponding to the start and end position information in the file allocation table for each field" and "associating the linear file allocation table and the data portion in a pulse position encoded transmission." This association is not disclosed in either reference.

The Examiner relies upon Chung to disclose all steps of claim 1, except for not disclosing pulse start and end position information (Paper No. 8, numbered paragraph 5). This is not correct, because, among other deficiencies, Chung does not disclose "providing a linear file allocation table including a field name for one or more subdivisions of data." Then the Examiner indicates that the pulse interval information of Chung can be replaced with pulse start and end information of Zeytoonjian. Such a rejection should be viewed for what it is—improper hindsight reconstruction. The Examiner fails to provide any true motivation or suggestion to combine these references, instead indicating that "One of ordinary skill in the

art would have been motivated to do this because it would allow the decoding of information to be based on pulse start and end position information (col. 16, lines 35-55)" (Paper No. 8, page 13, lines 1-3). When seen for what it is, the Examiner is saying "It would have been obvious to add A from reference 1 to B from reference 2 because that would allow reference 2 to have A" (cite to reference 1 that mentions A). In other words, the Examiner skirts the requirement of establishing a prima facie case of obviousness by failing to provide any proper motivation or suggestion to combine.

Even if the references were combined, there are significant limitations missing. Chung relates pulse position to symbols, not data fields. The pulse positions of Zeytoonjian are defined relative to the start pulse and stop pulse (col. 16, lines 44-67). Therefore, data fields of Zeytoonjian are not found in predetermined positions based on pulse start and end position information. More importantly, there is no teaching of in either reference of the relationship between data fields in a linear structured database and a pulse position encoded transmission. Thus, by any combination of these references, the Examiner is eviscerating the very distinctions that make the present invention patentable and the prior art remote.

It is of mention that the provision of this relationship between the pulse position encoded transmission and the field information within the database provides a number of significant advantages. One of the most significant advantages is that devices can directly access specific data by examining a pulse train (Specification, p. 17, last paragraph to p. 19, line 18). Further advantages flow from this direct access. For example, if a decoding template is used, data need not be tagged (Specification, p. 20, line 9-18); increased speeds can be realized in certain applications; there is no need for further scrambling or encryption

in some applications, and structured linear database can be built on a single layer protocol (Specification, p. 22, first full paragraph).

D. CLAIMS 17-20 ARE PATENTABLE AS U.S. PATENT NO. 4,357,634 TO CHUNG IS DEFFICIENT

Claims 17-20 rise and fall together. Claims 18-20 depend from claim 17. Claim 17 has been improperly rejected for obviousness based on Chung. Chung has previously been discussed herein. The Examiner recognizes that Chung does not disclose using pulse start and end information (Paper No. 8, p. 14, numbered paragraph 6). Claim 17 requires "organizing data into fields", "identifying the fields in a linear file allocation table including pulse start and end information for each of the fields" and "providing a receiving device with a driver program capable of understanding the linear file allocation table." Chung also fails to disclose "identifying the fields in a linear file allocation table." Chung merely discloses that different pulse durations are associated with different symbols. Chung does not disclose organizing data into fields and then identifying the fields in a linear file allocation table. Therefore, Chung discloses less than the Examiner has purported and thus the Examiner should be reversed.

IX. CONCLUSION

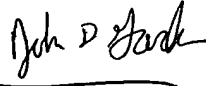
For the above-stated reasons, it is submitted that claims 1-8 and 11-20 are in condition for allowance. The decision of the Examiner, therefore, should be reversed and these claims should be allowed.

U. S. Serial No. 09/698,793
Melick, et al.

Attorney Docket No. P04254US1

Enclosed herein please find the Appeal Brief in triplicate. Also enclosed is a check for \$375 to cover costs of filing this Appeal Brief.

Respectfully submitted,



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APPENDIX

Claim 1 (Previously presented): A method for providing a structured linear database adapted for storage in a machine readable storage medium comprising:
providing a linear file allocation table including a field name for one or more subdivisions of data and pulse start and end position information for each of the field names;
providing a data portion which includes the data corresponding to each field in a predetermined position corresponding to the start and end position information in the file allocation table for each field; and
associating the linear file allocation table and the data portion in a pulse position encoded transmission.

Claim 2 (Previously presented): The method for providing a structured linear database of claim 1 further comprising a routing header portion and a tailbit portion with the linear file allocation table and the data portion.

Claim 3 (Previously presented): The method for providing a structured linear database of claim 1 wherein the structured linear database is transmitted over a telecommunications network.

Claim 4 (Previously presented): The method for providing a structured linear database of claim 1 wherein the structured linear database is transmitted over a time modulated ultra-wide band system.

Claim 5 (Previously presented): The method for providing a structured linear database of claim 1 wherein the structured linear database is transmitted over a fiber optics system.

Claim 6 (Original): A new method of transmitting data from a master to a user, the method comprising:

understanding the type of data to be transmitted from the master;

accessing the data stored by the master;

creating one or more fields corresponding to the type of data to be transmitted;

writing a linear file allocation table giving the name of the field and location within a

transmission at which the field contents start and stop;

transmitting the linear file allocation table to a user; and

transmitting the data from the master to the user at the location indicated in the linear file allocation table.

Claim 7 (Original): The method of transmitting data from a master to a user of claim 6 wherein the transmission occurs using a time modulated ultra-wide band system.

Claim 8 (Original): The method of transmitting data from a master to a user of claim 6 wherein the transmission occurs using a fiber optic system.

Claims 9-10 (Canceled).

Claim 11 (Original): The method of transmitting data from a master to a user of claim 6 further comprising:
repeating the transmitting of the linear file allocation table to a user; and
repeating the transmitting of the data from the master to the user at the location indicated in the linear file allocation table such that both the linear file allocation table and the data are stored on a transmission system.

Claim 12 (Original): The method of transmitting data from a master to a user of claim 6 wherein the transmitting occurs at a high rate of speed.

Claim 13 (Original): The method of transmitting data from a master to a user of claim 6 wherein the transmitting is highly secure.

Claim 14 (Original): The method of transmitting data from a master to a user of claim 6 wherein the transmitting is done wirelessly.

Claim 15 (Original): The method of transmitting data from a master to a user of claim 6 wherein the data includes streaming data.

Claim 16 (Original): The method of transmitting data from a master to a user of claim 6 wherein the data includes non-streaming data.

Claim 17 (Previously presented): A method of providing universal data exchange, the method comprising:

- organizing data into fields;
- identifying the fields in a linear file allocation table including pulse start and end information for each of the fields;
- providing a receiving device with a driver program capable of understanding the linear file allocation table;
- transmitting the linear file allocation table to the receiving device; and
- transmitting the data fields identified in the linear file allocation table.

Claim 18 (Original): The method of providing universal data exchange of claim 17 wherein the fields are e-mail type fields.

Claim 19 (Original): The method of providing universal data exchange of claim 17 wherein the fields are business specific type fields.

Claim 20 (Previously presented): The method of providing universal data exchange of claim 17 wherein the fields identified in the linear file allocation table are identified by reference to a standard format which can be understood by the driver program.

Claims 21-34 (Withdrawn).

Claim 35 (Previously presented): A method of providing universal data exchange, the system comprising:

organizing data into data fields;

identifying the data fields in a linear file allocation table;

providing a receiving device capable of understanding the linear file allocation table;

transmitting the linear file allocation table to the receiving device;

transmitting the data fields identified in the linear file allocation table without separately packetizing the data fields; and

identifying the data fields by the receiving device according to the linear file allocation table.

Claim 36 (Previously presented): The method of providing universal data exchange of claim 35 wherein the fields are e-mail type fields.

Claim 37 (Previously presented): The method of providing universal data exchange of claim 35 wherein the fields are business specific type fields.

Claim 38 (Previously presented): The method of providing universal data exchange of claim 35 wherein the fields identified in the linear file allocation table are identified by reference to a standard format understandable by the receiver device.

Claim 39 (Previously presented): The method of providing universal data exchange of claim 35 wherein digitally encoded data in a public formatted structured linear database is used.

Claim 40 (Previously presented): The method of providing universal data exchange of claim 35 wherein digitally encoded data in a privately formatted structured linear database is used.

Claim 41 (Previously presented): The method of providing universal data exchange of claim 35 wherein the steps of transmitting are performed using time modulated ultra wideband radio frequency transmissions.

Claim 42 (Previously presented): The method of providing universal data exchange of claim 35 wherein the steps of transmitting are performed over guided media.

Claim 43 (Previously presented): The method of providing universal data exchange of claim 35 wherein ultra wideband radio frequency transmissions are performed over non-guided media.

Claim 44 (Previously presented): The method of providing universal data exchange of claim 35 wherein the steps of transmitting use a duplex transmission method.

Claim 45 (Previously presented): The method of claim 41 wherein the transmissions are over guided media.

Claim 46 (Previously presented): The method of claim 45 wherein the transmissions are over non-guided media.

Claim 47 (Previously presented): The method of claim 35 wherein ultra wideband frequency transmissions are performed over guided media.